AMENDMENTS TO THE CLAIMS

Please amend the Claims as follows:

1. (Previously Presented) A SONET/SDH transmission device connected at a node of a synchronous network of a ring configuration for controlling inter-communication between a plurality of LAN segments, comprising:

a LAN interface including:

a LAN interface accommodation portion for accommodating LAN segments,

a traffic monitor for monitoring traffic of LAN data, which is transmitted from a node to another node of the synchronous network,

a frame converter for converting a frame format to pass the LAN data through the synchronous network,

a path selector for switching a transmission path for the LAN data to either a fixed band side or a shared band side according to the traffic of LAN data monitored by the traffic monitor, and

a packet switch controller for discriminating packeted LAN data to be directed to a local node or not, and if the packeted LAN data is for another node, switching to transfer to the packeted LAN data to the other node;

a multiplex/demultiplex part for multiplexing/demultiplexing the packeted LAN data from the LAN interface to a payload of a data frame in a logical path between a high speed SONET/SDH interface and a low speed SONET/SDH interface; and

a SONET/SDH interface connected to the multiplex/demultiplex part having a high speed interfacing function for connecting the SONET/SDH transmission device to the synchronous network of ring configuration.

2. (Previously Presented) The SONET/SDH transmission device according to Claim 1, wherein said frame converter includes a buffer which stores data transmitted from the LAN segment, and said traffic monitor monitors traffic by monitoring the capacity of said buffer which stores data transmitted from the LAN segment.

3. (Cancelled)

4. (Cancelled)

5. (Previously Presented) The SONET/SDH transmission device according to Claim 1, wherein said path selector adds a sequence number for each packet at the transmission side so as to prevent a mismatch of the arrival sequence when the communication path is different for each packet due to path switching.

6. (Previously Presented) The SONET/SDH transmission device according to Claim 5, wherein said path selector adds a sequence number for each packet after said added node number at the transmission side so as to prevent a mismatch of the arrival sequence when the communication path is different for each packet due to path switching.

7. (Previously Presented) The SONET/SDH transmission device according to Claim 5, wherein said path selector matches the phases of packets by referring to said sequence numbers and deleting said sequence numbers of the added information at the receiving side.

8. (Previously Presented) The SONET/SDH transmission device according to Claim 1, wherein said packet switch controller further includes an address learning part, which learns information where the transmission source and transmission detection node number information which is added to a packet sent from another LAN segment, the transmission source and transmission destination address information which the LAN data has, and the communication port information which the packet switch controller has, are associated and stores said association information.

9. (Previously Presented) The SONET/SDH transmission device according to Claim 8, wherein for the node numbers of the overhead to indicate the transmission source and the transmission destination in said communication controller, a local node number which is preset, is added as the transmission source node number and the node number which is derived by searching and referring to said learned and stored association information on the node numbers, communication ports and addresses based on the transmission destination addresses which the LAN data bus has, is added as the transmission destination node number.

10. (Previously Presented) The SONET/SDH transmission device according to Claim 8, wherein said packet switch controller compares the local number, which is preset, and the transmission destination node number of a packet sent from another node, which is another LAN segment, based on said learned and stored association information of the node numbers, ports and addresses, and the transmission destination packet is received by the local node if the transmission destination node number is the same as the local node number, and a

communication port is selected and the packet is transferred if the transmission destination node number is another node number.

11. (Previously Presented) The inter-LAN communication system of claim 17 wherein said inter-LAN communication device further comprises:

an address learning part which learns and stores data generated in one LAN segment based on said traffic status and routing information added to the LAN data from another LAN segment when the data is transferred to the other LAN segment.

12. (Previously Presented) The inter-LAN communication system according to Claim 11, wherein said packet switch controller in the inter-LAN communication device installed in each one of the plurality of nodes of said network further comprises two communication ports, and band sharing type inter-communication between the plurality of LAN segments is implemented by the cascade connection of the band (path) in a ring format.

13. (Previously Presented) The inter-LAN communication system according to Claim 12, wherein said packet switch controller sets a fixed band path of a Point-to-Point connection between specified nodes, so as to guarantee a minimum access band between said nodes, and the band sharing path is used as a bypass route when traffic exceeds the band of said fixed band.

14. (Previously Presented) The inter-LAN communication system according to Claim 12, wherein said packet switch controller always transmits the packeted LAN data for transmission to the band sharing path when only the band sharing type path is used.

15. (Cancelled)

16. (Previously Presented) The inter-LAN communication system according to Claim 13, wherein said path controller normally sends the packeted LAN data for transmission to said fixed band path when the minimum access band guarantee type is used, and dynamically switches traffic to the band sharing path when said traffic status monitor notifies a band overflow of said fixed band path.

17. (Previously Presented) An inter-LAN communication system which performs inter-communication between a plurality of LAN segments connected in a ring configuration, comprising:

a synchronous network in a SONET/SDH system of a ring configuration,

an inter-LAN communication device which is installed in each one of a plurality of nodes of said synchronous network, and

a LAN segment which is connected to said inter-LAN communication device, wherein said inter-LAN communication device further comprises:

a LAN interface accommodating portion for accommodating said LAN segment,

a traffic monitor for monitoring traffic of LAN data, which is transmitted from a node to another node of the synchronous network,

a frame converter for converting a frame format to pass the LAN data through the synchronous network,

a path selector for switching a transmission path for the LAN data to either a fixed band side or a shared band side according to the traffic of the LAN data monitored by the traffic monitor, and

a packet switch controller for discriminating packeted LAN data to be directed to a local node or not, and if the packeted LAN data is for another node, switching to transfer the packeted LAN data to the other node.